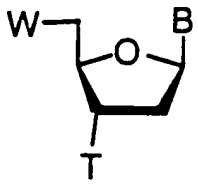
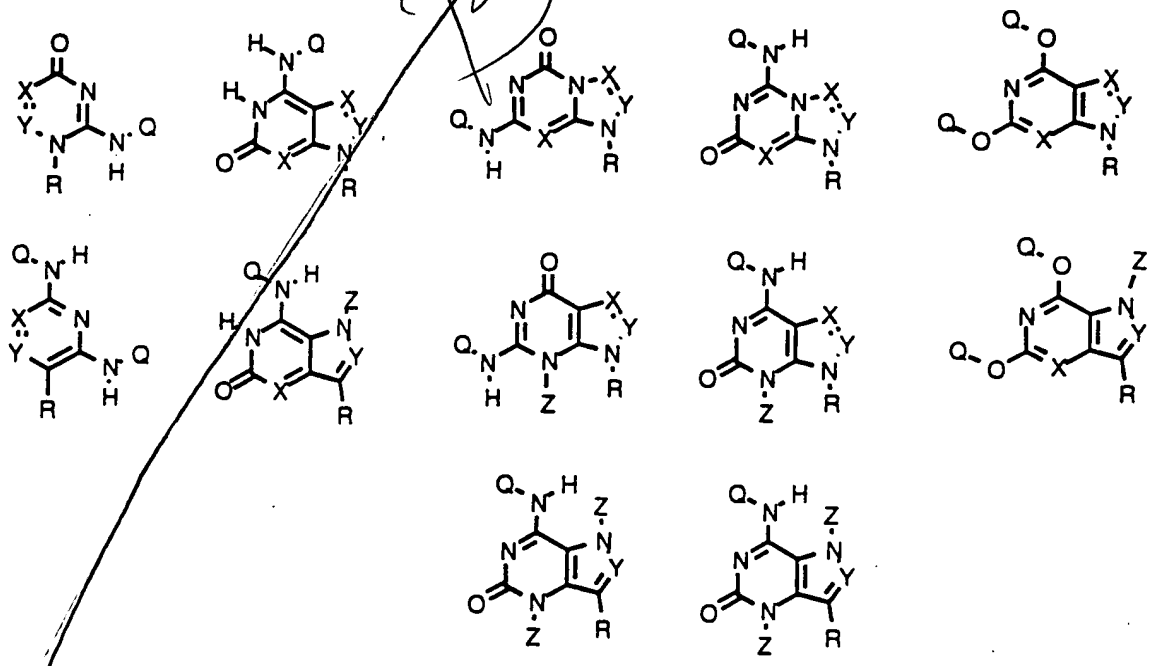
What is claimed is:

1. Compositions of matter having the formula



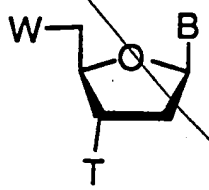
wherein T is $-OP(OA)NM_2$, wherein A is a protecting moiety selected from the group consisting of CH_3, CH_2CH_2CN, and CH_2CH_2-phenyl-NO_2, and M is an alkyl group, W is a protecting moiety selected from the group consisting of -OC(phenyl)$_3$, -OC(4-methoxyphenyl)(phenyl)$_2$, and -OC(phenyl)(4-methoxyphenyl)$_2$, and B is a heterocycle selected from the group consisting of



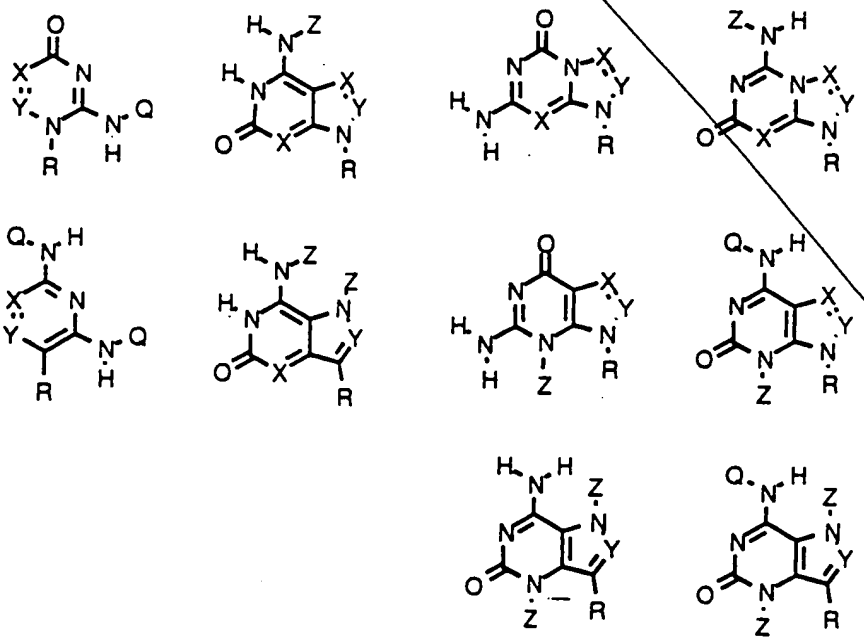
wherein -R designates the point of attachment, X is either a nitrogen atom or a carbon atom bearing a substituent Z, Z is either a hydrogen, an unfunctionalized lower alkyl, alkynyl, or alkyl-alkynyl chain, or a lower alkyl, alkynyl , or alkyl-alkynyl chain bearing a protected amino,

carboxyl, hydroxy, thiol, aryl, indole, or imidazoyl group, Y is either N or CH, the ring contains no more than three nitrogens consecutively bonded, and Q is a protecting moiety selected from a group consisting of benzoyl, p-*tert*butylbenzoyl, dialkylformamidyl, and p-nitrophenylethyl.

2. Compositions of matter having the formula

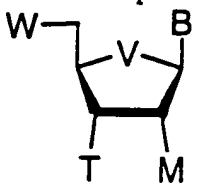


wherein T is selected from the group consisting of -H, -OH, and $-OPO_3H_2$, W is selected from the group consisting of -OH, $-OPO_3H_2$, $-OP(O_2H)-OPO_3H_2$, $-OP(O_2H)OP(O_2H)PO_3H_2$, $-OPSO_2H_2$, $-OPS(OH)OP(O_2H)PO_3H_2$, and $-OP(O_2H)OP(O_2H)PSO_2H_2$, and B is a heterocycle selected from the group consisting of

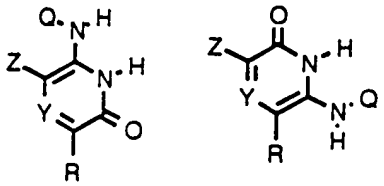


wherein -R designates the point of attachment, X is either a nitrogen atom or a carbon atom bearing a substituent Z, Z is either a hydrogen, an unfunctionalized lower alkyl, alkynyl, or alkyl-alkynyl chain, or a lower alkyl, alkynyl , or alkyl-alkynyl chain bearing a protected amino, carboxyl, hydroxy, thiol, aryl, indole, or imidazoyl group, Y is either N or CH, and the ring contains no more than three nitrogens consecutively bonded.

3. Compositions of matter having the formula



wherein V is selected from the group consisting of -H and -OZ, T is selected from the group consisting of -H, -OH, $-OPO_3H_2$, and $-OP(OA)NM_2$, wherein A is a protecting group selected from the group consisting of CH_3, CH_2CH_2CN, and CH_2CH_2-phenyl-NO_2, and M is an alkyl group, W is selected from the group consisting of -OH, $-OPO_3H_2$, $-OP(O_2H)$-OPO_3H_2, $-OP(O_2H)OP(O_2H)PO_3H_2$, -OC(phenyl)$_3$, -OC(4-methoxyphenyl)(phenyl)$_2$, and -OC(phenyl)(4-methoxyphenyl)$_2$, and B is a heterocycle selected from the group consisting of



wherein -R designates the point of attachment, X is either a nitrogen atom or a carbon atom bearing a substituent Z, Z is either a hydrogen, an unfunctionalized lower alkyl, alkynyl, or alkyl-alkynyl chain, or a lower alkyl, alkynyl , or alkyl-alkynyl chain bearing an amino,

trifluoroacetamido, carboxyl, hydroxy, thiol, aryl, indole, or imidazoyl group, Y is either N or CH, the ring contains no more than three nitrogens consecutively bonded, and Q is selected from a group consisting of hydrogen, benzoyl, p-*tert*butylbenzoyl, dialkylformamidyl, and p-nitrophenylethyl.

add B5